ABSTRACT

A mechanism and methods for traversing a general tree are disclosed. A novel data structure for modeling a node that includes a unique node counter is described. In certain embodiment of the inventions the unique node counter comprises a timestamp of sufficient granularity to render each timestamp in the tree unique. The node counter is used to locate the correct starting point within a tree in a continuation call when the specified continuation node no longer exists. Certain portions of each node in the entire branch, typically referred to as a lineage, for the specified continuation node are used by the mechanism and methods. Typically the lineage for a particular node comprises the - counter value, sibling pointer, and level of the node, its parent, its parent's parent, and so on all the way to the root node in the tree. The data structure for modeling a node may also include a parent pointer.